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ABSTRACT

Focusing on educational reform in Arkansas, this paper consists of three parts. The first section refers to the effects of the reform movement on the entire state, and the second section describes the movement's effects on an individual school district (Fayetteville). Results from a survey of Fayetteville faculty members concerning the quality of education as a result of reform efforts is included. The third part presents conclusions, recommendations, and possible implications. The effect on the state is examined by presenting data from standardized tests for grades 4, 7, and 10 in the areas of reading, mathematics, and language arts. Data on ACT (American College Testing program) and SAT (Scholastic Aptitude Test) scores and on the students withdrawing from the secondary schools within the state are also presented. The effect on the individual school district is noted by examining the test data from the state's minimum performance testing program for grades 3, 6, and 8. Appended are 17 references. (SI)

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EDUCATIONAL REFORM IN ARKANSAS

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Educational reform is not a new phenomenon in the United States. Indeed in some ways it appears to be cyclical in nature. The decade of the fifties saw educational reform with an emphasis on content ushered in by the launching of Sputnik by the U.S.S.R. The latter half of the sixties witnessed educational reform with an emphasis on the individual. The seventies closed with the beginning of another reform effort with a return to an emphasis on content in the school curriculum. Few states have escaped these efforts to reform the educational program in their schools. Arkansas is no exception.

The current wave of educational reform in Arkansas dates back to the late sixties when a bill was passed in 1969 to require schools to meet the accreditation standards for an "A" rating by the Arkansas Department of Education by 1979. To avoid possible problems resulting from changes in the existing standards, these were "locked in" to guarantee stability of the accreditation criteria. The standards that had been adopted in the middle sixties thus prevailed until 1979 and later. Most of the school districts were successful in meeting the requirements of the 1969 act of legislation.

After 1979 many persons in the state began to discuss the possibility and desirability of raising or improving the standards that had governed for some fifteen years. By 1983 educational reform efforts had increased in intensity and magnitude with new acts of legislation, state committee reports, state board of education adoption of new standards, and with new guidelines being issued by the state department of education. The target date for school districts to meet the new standards was 1987.

Reform efforts related to in-service education and staff development

began in 1979 with a program for improving teachers' instructional skills and administrators' supervisory skills, based largely upon the work of Madeline Hunter. In 1983 a second program was added. This one was in classroom management and was primarily based upon the work of Carolyn Evertson and Edmund Emmer. Both of these programs have been widely disseminated in the state. A third program, Teacher Expectations and Student Achievement (TESA), is just beginning to be disseminated in the state.

There is some doubt nationally that the recent rise in scores of students on standardized tests can be attributed to the various school reforms of the past decade. (11:1,35). The same may be true of the reforms at the various state levels. However, educators should be aware of what is being done and should be attempting to discover the possible effects. Although it will be several years before the effects from all the changes produced by the reform movement in Arkansas can be determined and analyzed, it is worthwhile to take a preliminary look at test scores and related data collected in the state over the past several years.

This paper consists of three parts with the first section referenced to the effects of the reform movement on the entire state and the second section referenced to the effects on an individual school district. The third part presents conclusions, recommendations, and possible implications. The effect on the state is examined by presenting data from standardized tests for grades 4, 7, and 10 in the areas of reading, mathematics, and language arts. Data for ACT and SAT scores and on the students withdrawing from the secondary schools within the state are also presented as well as data on the percentage of students going to colleges

and universities. The effect on the individual school district is noted by examining the test data from the state's minimum performance testing program for grades 3, 6, and 8. Conclusions are drawn from this material.

The State

The Arkansas General Assembly enacted the Education Assessment Act of 1979 which established a Student Assessment Program in the state's public schools. The 1st Extraordinary Session of 1983 passed Act 89 which expanded that assessment program by requiring, as one part, that a norm-referenced test be used to measure the achievement of groups of students. The Science Research Associates (SRA) Achievement Series was selected and the Student Assessment Program began during the 1979-80 school year with pupils in grades 3, 4, 6, and 8 being tested. The following year pupils in grades 4, 5, 6, and 8 were tested. In 1981-82 students in grades 4, 6, 8, and 10 were tested, and the current pattern of grades 4, 7, and 10 was selected and these grades were first tested in 1982-83. The SRA tests were used through the 1984-85 school year. (2:1)

During the 1985-86 school year, the Arkansas Department of Education changed to the sixth edition of the Metropolitan Achievement Tests (MAT6). The change to MAT6 (normed in 1985) allowed the state to compare its students "... on content relevant to education in the 1980's" (2:1).

Table 1 presents the data available on grades 4, 7, and 10. While the data for grades 7 and 10 are only available for the last five years the same general trend of improvement in achievement test scores seems to hold for these grades, although not as pronounced, as for grade 4 for which we have data for eight years. (3:1) (5:1)

TABLE 1

ARKANSAS STANDARDIZED TESTING PROGRAM

YEAR	GRADE	TEST	READING	MATHEMATICS	LANGUAGE	COMPOSITE
1979-80	4	SRA	*40	*39	*42	*44
1980-81	4	SRA	46	44	48	51
1981-82	4	SRA	48	46	49	53
1982-83	4	SRA	49	47	50	54
1983-84	4	SRA	52	53	53	59
1984-85	4	SRA	54	56	54	61
1985-86	4	MAT6	60	67	63	**64
1986-87	4	MAT6	62	68	64	**66
1982-83	7	SRA	48	52	53	54
1983-84	7	SRA	49	56	55	56
1984-85	7	SRA	50	58	55	57
1985-86	7	MAT6	51	53	55	**54
1986-87	7	MAT6	53	57	59	**58
1982-83	10	SRA	44	52	46	44
1983-84	10	SRA	49	56	50	49
1984-85	10	SRA	51	57	51	51
1985-86	10	MAT6	49	50	58	**53
1986-87	10	MAT6	49	51	59	**54

*Percentile
**Total Basic Battery [a composite that includes all items in reading, mathematics, and language tests (2:4)]

Table 2 gives a comparison of the percent of scores in the national quartiles for 1980 and 1987 for fourth graders. The two years represent scores from two different tests, the SRA series and MAT6, and must be treated with caution. However, it does appear that improvement is indicated as more students in the state are in the upper quartiles in 1987 than in 1980. (17:14A) (2:5)

TABLE 2

COMPARISON OF THE PERCENT* OF SCORES IN NATIONAL QUARTILES FOR 1980 AND 1987 FOR FOURTH GRADE

National Quartile	Reading		Mathematics		Language Arts	
	1980	1987	1980	1987	1980	1987
76-99	23	33	19	43	21	34
51-75	24	30	22	27	23	31
26-50	22	23	25	18	24	24
01-25	32	14	33	13	32	10

* The percents may not add to 100 because of rounding.

Table 3 presents selected ACT test data for students in Arkansas for the school years of 1971-72 through 1986-87. An examination of the composite scores for the nation and the state reveals that the two were more similar in the early seventies and then the difference became more pronounced from the middle seventies until the middle eighties. (8:1)

Table 4 presents selected SAT data for Arkansas students from 1971-72 through 1986-87.

TABLE 3

SELECTED ACT DATA: MEAN SCORES FOR NATIONAL AND ARKANSAS TEST-GROUPS

Year	English		Mathematics		Social Studies		Natural Sciences		Composite	
	Nation	State	Nation	State	Nation	State	Nation	State	Nation	State
1971-72	17.6	18.0	18.6	17.8	18.4	18.1	20.3	19.9	18.8	18.6
1972-73	17.8	18.0	18.8	18.1	18.1	17.6	20.5	20.0	18.9	18.6
1973-74	17.6	18.2	18.1	17.5	17.9	17.9	20.6	20.2	18.7	18.6
1974-75	17.7	18.0	17.6	16.8	17.4	17.3	21.1	20.8	18.6	18.3
1975-76	17.5	17.5	17.5	16.3	17.0	16.8	20.8	20.2	18.3	17.8
1976-77	17.7	17.7	17.4	16.1	17.3	16.8	20.9	20.2	18.4	17.8
1977-78	17.9	17.9	17.5	16.0	17.1	16.6	20.9	20.2	18.5	17.8
1978-79	17.9	17.9	17.5	16.2	17.2	16.6	21.1	20.4	18.6	17.9
1979-80	17.9	17.8	17.4	16.0	17.2	16.5	21.1	20.2	18.5	17.8
1980-81	17.8	17.6	17.3	15.6	17.2	16.4	21.0	20.1	18.5	17.5
1981-82	17.9	17.8	17.2	15.7	17.3	16.7	20.8	20.2	18.4	17.7
1982-83	17.8	17.7	16.9	15.3	17.1	16.4	20.9	20.1	18.3	17.5
1983-84	18.1	17.9	17.3	15.6	17.3	16.5	21.0	20.1	18.5	17.6
1984-85	18.1	17.7	17.2	15.2	17.4	16.4	21.2	20.0	18.6	17.4
1985-86	18.5	18.3	17.3	15.7	17.6	17.0	21.4	20.7	18.8	18.1
1986-87	18.4	18.3	17.2	15.3	17.5	16.7	21.4	20.4	18.7	17.8

TABLE 4

SELECTED SAT DATA: MEAN SCORES FOR NATIONAL AND ARKANSAS TEST-GROUPS

	Verbal		Mathematics	
Year	Nation	State	Nation	State
1971-72	453	486	484	511
1972-73	445	478	481	511
1973-74	444	484	480	512
1974-75	434	482	472	510
1975-76	431	485	472	518
1976-77	429	480	470	519
1977-78	429	483	468	514
1978-79	427	478	467	513
1979-80	424	480	466	514
1980-81	424	477	466	510
1981-82	426	480	467	519
1982-83	425	482	468	518
1983-84	426	482	471	521
1984-85	431	481	475	517
1985-86	431	482	475	419
1986-87	430	480	476	521

An examination of the data in Table 4 shows the state mean scores to be generally higher than the national mean scores. The probable explanation for this is that far fewer students in the state took the SAT than took the ACT. For example, in 1984-85 and 1985-86, 1425 and 1583 students respectively took the SAT whereas 14,862 and 14,366 students took the ACT. The mean SAT scores for the nation and state were also more similar in the early seventies. (9:1)

Table 5 presents the number of students removed from pupil attendance rolls in Arkansas. The data are for black students and white students since these two groups constitute the vast majority of the students in Arkansas schools. Black students constitute about 24% of the total student population, and the data available for 1983-84 through 1986-87 show that blacks have been removed from the rolls somewhat disproportionately to their percentage of the state's student population, but some improvement has occurred during the last two years. (7:1) Improvement has also been noted relevant to the dropout rate at the national level. A recent report from the Bureau of the Census indicated that the high school dropout rate in the nation fell significantly between 1973 and 1983 and that the rate for black males showed the greatest decline. During this period the yearly dropout rate for black males fell from 12 percent to 7 percent. The report indicated that students who dropped out in 1983 may have stayed in school longer than those who dropped out in 1973. It was also reported that for the three high school years considered, the greatest improvement occurred in grades ten and eleven wih little change for grade twelve. (13:8)

TABLE 5

NUMBER OF STUDENTS REMOVED FROM PUPIL ATTENDANCE ROLLS

	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12	TOTAL
1983-84							
Black	214(39)*	204(26)	512(22)	922(33)	672(28)	480(26)	3000(29)
White	328(61)	566(74)	1857(78)	1835(67)	1763(72)	1382(74)	7201(71)
1984-85							
Black	163(32)	207(28)	429(30)	765(32)	569(25)	469(26)	2602(29)
White	339(68)	537(72)	994(70)	1659(68)	1670(75)	1324(74)	6523(71)
1985-86							
Black	140(27)	211(25)	404(27)	714(30)	565(26)	444(24)	2478(27)
White	380(73)	647(75)	1118(73)	1661(70)	1648(74)	1402(76)	6856(73)
1986-87							
Black	152(27)	266(29)	399(25)	801(31)	572(25)	413(23)	2603(27)
White	405(73)	638(71)	1183(75)	1768(69)	1687(75)	1349(77)	7030(73)

*The first number represents the number removed and the number in parentheses represents the percent removed (the first number divided by the total of black and white students removed from pupil attendance rolls).

Table 6 presents information about the percent of high school graduates going to colleges and universities in the state. This information represents a comparison of the number of students graduating from the state's public schools in the spring of the year with the number of full-time students, first time enrolled, in public and nonpublic colleges and universities in the state that fall semester. It does not include graduates of nonpublic schools (3% of students graduating in the state) nor does it include attendance in the fall at vocational-technical schools or proprietary schools. Therefore, there is not an exact match in the data of students graduating and those continuing that fall. A further reason for why there is not an exact match is because persons who may have graduated from high school several years earlier are enrolling in colleges and universities in the fall and are counted. It should also be noted that it is assumed that about as many students come into the state to attend college as leave to attend college. (15 and 10)

TABLE 6

PERCENT OF HIGH SCHOOL GRADUATES GOING TO COLLEGE

1981	1982	1983	1984	1985	1986
39.6	38.2	39.3	39.4	41.6	42.9

The state became concerned about the percent of students who were going to college and the Department of Higher Education produced a slide/tape presentation and accompanying booklet designed to encourage students in general to go to college and to encourage eighth graders in particular to go and to select appropriate courses in high school to

better prepare them to attend college. This program began in the spring of 1984 with presentations to grades 8-12 in the secondary schools of the state and has continued for eighth graders each spring since that date. While it may be too early to assess the impact of this specific program and other possible causative factors, such as improving achievement test scores, on the percent of the students going to college, the percentage is improving.

Dr. Ruth Steele, Director of the Arkansas Department of Education, has noted other results of the reform movement. These include the majority of the local school districts increasing local effort through tax increases to meet new standards, more that two dozen districts voluntarily consolidating, and more than 1,500 new teaching positions being filled. (16:1,3)

The Individual School District

It may be interesting to look at how the attention to testing has affected an individual school district in Arkansas. Fayetteville is the home of the state's major university, has traditionally supported public education and has also had reasonably high expectations for its schools. Its public schools enroll approximately 6,000 students in grades K-12.

By almost any measure, the public schools in Fayetteville are "successful." The schools have a low dropout rate, offer a diverse curriculum, and employ a high percentage of advanced-degree teachers. The schools have a relatively high percentage, about 75%, of its graduates going to colleges and universities including many prestigious institutions.

The results of the school district's most recent norm-referenced

testing are shown in Table 7. These results are typical of those for each year since the testing program began.

TABLE 7

METROPOLITAN ACHIEVEMENT TEST (MAT6) RESULTS FOR FAYETTEVILLE PUBLIC SCHOOLS AND STATE FOR 1986-87

Grade	Total Reading	Total Math	Total Language	Total Science	Social Studies
4	72 (62)*	75 (68)	69 (64)	76 (67)	75 (66)
7	69 (53)	76 (57)	67 (59)	71 (59)	74 (59)
10	63 (49)	66 (51)	63 (59)	67 (55)	72 (52)

*The first number represents the percentile for Fayetteville public school students. The number in parentheses represents the percentile for the state's public schools.

Fayetteville's students perform well on such tests and, to the degree that these tests measure the quality of education in a school, one would conclude that Fayetteville has "good" or perhaps "excellent" schools. Although students in other school districts in the vicinity also have respectable scores, Fayetteville schools seem to distinguish themselves especially when it is considered that this is one of the largest districts in this area of the state in enrollment.

When the state's Minimum Performance Test (MPT) results are compared to those in Fayetteville, similar, but somewhat puzzling, results are apparent. These data are presented in Table 8.

TABLE 8

ARKANSAS MINIMUM PERFORMANCE TEST RESULTS FOR
FAYETTEVILLE PUBLIC SCHOOLS AND STATE FOR 1986-87

Grade	Reading	Math	Language Arts	Science	Social Studies
3	92 (91)*	94 (90)			
6	97 (93)	97 (90)	93 (84)	93 (85)	91 (78)
8	97 (89)	94 (91)	82 (79)	86 (75)	86 (75)

*The first number represents the percent of students passing in Fayetteville public schools. The number in parenthesis represents the percent passing in the state.

Again, Fayetteville compares very favorably on this measure of student achievement. However, some danger signs have now arisen. Arkansas schools are required to have 85% passing rates to maintain their autonomy as school districts. At the state level two of the sixth-grade scores and three of the eighth-grade scores are below the acceptable level, and a third sixth-grade score is barely acceptable. Fayetteville's eighth-grade language arts score is below the acceptable level, and two other eighth-grade scores are barely acceptable. Since this test is supposed to measure students' attainment of basic skills, an obvious question arises: How could Fayetteville students who scored at the 65th - 70th percentile a year earlier on the MAT-6 fail to demonstrate basic skill mastery in language arts and demonstrate only minimal mastery in science and social studies?

An examination of the eighth-grade MPT in language arts indicates that the test is heavily dependent on identification of sentence parts and

parts of speech. The following questions need to be asked and answered:

> Is this labeling the basic language skill we expect all students to master or risk being retained in eighth grade?
>
> Is appropriate use of the language less basic than this labeling?
>
> Should a school adapt its curriculum to emphasize labeling over usage?
>
> Has educational reform, in language arts as well as in other areas, led to an emphasis on shallow but easy-to-measure objectives?

The Arkansas Department of Education contends that scores in these marginal areas will improve over time. If they do, will that improvement take place at the expense of more significant educational objectives?

Our list of questions could continue, but is perhaps summarized by a single question: Does improved performance on such tests as the MAT6 and the MPT indicate that educational reform is "working" and that the quality of education in our schools is improving? A survey of Fayetteville faculty members was conducted to try to answer this qualitative question. Approximately 70% of the surveyed faculty members responded to the questionnaire, with the following results reported here on seven of the survey items:

1. How much has what you teach changed because of the state's testing requirements?

   50% Not very much
   40% Moderately
   10% A great deal

   (Note: The total percent in some of the items may not exactly equal 100 because of rounding.)

2. How much has what you teach changed because of the state's course content guides?

   44% Not very much

48% Moderately
7% A great deal

(Note: The MPT is keyed to the course content guides, but not every subject/grade level is tested by the state.)

These first two questions could be interpreted to indicate that teachers have not felt compelled to make significant changes in the content of their classes. A second interpretation is that approximately half of these professional educators have been forced to make at least moderate changes which they might not have chosen to make if left to their own devices. The next question indicates that the extent of the accommodation has in fact been relatively minor for most teachers.

3. How much time (per week) do you spend teaching items/objectives which you would not teach if those items/objectives were not tested on the MPT or the MAT6?

60% None
25% Up to 30 minutes
8% 30 minutes - 1 hour
6% 1 - 2 hours
3% More than 2 hours

This accommodation might be more significant if teachers at grade levels and/or in subject areas directly affected by the two testing programs were separated from other teachers. However, the survey data have not been disaggregated in this manner.

4. How often do you refer to student test data?

27% Rarely
36% Beginning of year
40% When student is having trouble
34% When considering referral
7% Often
11% Other

(Note: The percent total here is considerably more than 100 because the respondents could mark more than one category.)

Only 7% use these data "often" while over one-fourth of the teachers "rarely" use them. This could be a commment on the usefulness of the data, but it could also refer to the school's degree of commitment to the testing program and to orienting its faculty to the utility of the test data.

Questions 5 and 6 address quality issues relevant to the impact of the testing program.

5. How has the quality of the content in your classroom changed due to the state's testing and curriculum changes?

64%	Not much change
12%	Some decreased quality
1%	Considerable decreased quality
22%	Some increased quality
2%	Considerable increased quality

While almost two-thirds of the teachers see little change in quality, almost twice as many respondents perceived an increase in quality as a result of the testing as perceived a decrease in quality.

6. How have the state's testing requirements affected the amount of creative/divergent thinking in your classroom?

66%	Not much change
28%	Some decrease
6%	Some increase

Again, two-thirds see little change, but more than four times as many see a negative impact on thinking as see a positive impact. This appears to reaffirm the earlier suggestion that the reforms address relatively low-level cognitive areas.

7. Do you feel the state's testing program is worthwhile (cost, time, validity, etc.)?

36%	Yes
42%	No
21%	Uncertain

Teachers do not appear to be convinced that the testing program produces results that are sufficiently useful to justify the investment of time and money in this program.

Conclusions, Recommendations, and Implications

The state of Arkansas has been deeply involved in the educational reform movement and has begun several programs to improve its educational system. Among these are the Program for Effective Teaching (PET) to improve instructional skills and the supervision/evaluation of these skills, the classroom management program, the Teacher Expectations and Student Achievement (TESA) program, and the student assessment program for measuring student achievement on standardized tests for grades 4,7, and 10 and the state minimum performance test for grades 3,6, and 8. The addition of educational service agencies (cooperatives), principals' assessment center, the testing of teachers, and the effort to encourage eighth graders to go to college and to take appropriate courses in high school would also be included in the educational reform.

Some of these efforts such as TESA and the principals' assessment center have only recently been implemented and are unlikely to have had any significant effect on any trends identified in the data. The achievement test score data, the comparison of the percent of scores in the national quartiles, and the percent of students going to college all indicate improvement in the state's educational program. The data on ACT and SAT scores and the number of students removed from attendance rolls offer less evidence of improvement.

As was noted earlier, it is too early to determine the effects from

all the changes produced by the reform movement in the state and to identify the specific effects of each reform effort. However, this preliminary investigation indicates some positive factors. It is recommended that data be collected for the next five to ten years to determine more of the effects of changes made. It is also recommended that some effort be made to identify what change is producing what effect(s) and how much. This should include consideration of a national concern of whether poor and minority children are being adversely affected. (12:66-67)

There is some doubt at the national level that the recent rise in scores of students on standardized tests are attributable to the various school reforms of the past decade. (11:1,35) The same may or may not be true of the reforms at the state level. Further study is needed to determine this.

Even those schools which perform relatively well on required tests may not see much value in that testing and/or may not make very productive use of the test results. It is recommended that schools and state education departments look for ways to increase teachers' perceptions of the usefulness of the testing programs, or de-emphasize testing if its usefulness cannot be clearly demonstrated.

Schools, departments of education, politicians, and the general public may come to believe that the tests referred to in this paper are a true measure of the quality of education in a school or community. It is recommended that these decision-makers ensure that such tests really do measure <u>important</u> elements of education, not just those which are easy to measure but which may be educationally insignificant. Students and the

public will not be best served if tests of low-level objectives are allowed to control the curriculum and to serve as the sole measure of educational quality. Therefore, each agency which requires standardized testing should examine this requirement to determine whether the testing program is accomplishing its intended purpose, and before any testing program is expanded, the following questions need to be answered:

> Does the program provide information for wise educational decisions?
>
> Does it test all important areas of education or only a narrow range of educational goals?
>
> Does it serve as a beginning point for high-quality education, or is it an end in itself?

Testing may be a political and educational "fact of life" in the public schools, however, educators have an obligation to see that testing is used responsibly in each school, that it does not harm children, and that it results in improved education.

Finally, three implications may be made based upon the previous material and considerations. The first implication is that since some positive results are occuring the state will probably continue its reform efforts. The second implication is that since it is not known what effort is producing exactly what, there may be unnecessary expenditures, wasted time and effort, and unnecessary negative side effects for the public school curriculum in the state. The third implication is more specific. Unless the state and/or individual school districts do something to improve and enhance the credibility of the testing program and positively assist faculties and others in understanding when, where, and how the test data can and should be used, the data may be underutilized, or worse, misused.

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